

ENVIRONMENTAL LABORATORY SELECTION

Choosing the right laboratory for your project is imperative for achieving valid, accurate and useful data. Air, water, solid waste, and hazardous waste permit applications may involve analytical testing. The Mississippi Department of Environmental Quality (MDEQ) suggests you consider the following questions when selecting a laboratory.

Is the lab accredited for the parameters of interest?

Using an accredited laboratory can be the best indicator that the laboratory has some expertise for your specific testing needs.

The National Environmental Laboratory Accreditation Conference (NELAC), supported by the Environmental Protection Agency's (EPA) National Environmental Laboratory Accreditation Program (NELAP), is a good source of information regarding laboratory accreditation. Visit:

**[www.epa.gov/nerlesd1/
land-sci/nelac/index.html](http://www.epa.gov/nerlesd1/land-sci/nelac/index.html)**

Information available from this website includes:

- NELAC Standards
- Policies
- Lab evaluation checklists
- List of accredited laboratories

Does the laboratory identify the testing methods used?

The EPA has established testing protocols and methods. For data to be valid, your chosen laboratory should use EPA approved methods. For a listing of the approved EPA methods for your area of interest, visit:

www.epa.gov/epahome/index/

Does the laboratory provide quality control data associated with your analyses?

Specific quality control procedures should be used to ensure that the results are accurate and precise. The quality control procedures should include, at a minimum:

- Method blanks: a clean sample tested with your samples to ensure the lab equipment is not contaminated

- Matrix spike: a laboratory provided sample with a known amount of pollutant to ensure testing accuracy
- Lab splits: separation of a submitted sample, sending half to another lab for analysis comparison
- Duplicate samples: an identical sample, tested in the exact manner, to verify testing precisions

Does the laboratory report holding times and date of analysis?

As a sample ages, the concentration of the compounds of interest may change. Analytical samples have a specified life span or "holding time" that, if exceeded, will invalidate the results.

To ensure the data received is valid, the holding time should be documented in the analytical reports, which should include:

- Sample received date
- Date analysis was conducted
- Testing method used for each parameter

***Truth is the foundation
of everything we do.***

What chain of custody records are maintained by the laboratory?

Laboratories should have some type of sample control and tracking system: a Chain of Custody record. The Chain of Custody should, minimally, include:

- Travel and storage conditions
- Temperature of sample upon receipt
- Identity of sample couriers
 - Why did they have it?
 - How long was it in their possession?

Does the laboratory perform the test in-house?

A common practice to provide complete analytical services is for laboratories to sub-contract with another laboratory to complete the required analyses. If your required analysis is sent to another laboratory, ensure that the results are accurate, precise and can be duplicated.

Does the laboratory properly dispose of its sample wastes?

Analytical laboratories are subject to the same regulations as anyone else regarding waste disposal.

The chemical wastes generated in performing the analyses and excess amounts of your sample must be disposed of properly. These wastes may even be subject to hazardous waste regulations for disposal and waste management.

Proper disposal practices by the laboratory will ensure that you are not liable for mismanagement of waste by the laboratory.

What are your responsibilities?

To obtain meaningful results, you should:

- Ensure you obtain a representative sample
- Use the correct sample container
- Properly store and transport the sample to the laboratory
- Identify the type of material sampled, (water, solvent, sludge, soils)

Contact your laboratory for additional, specific sampling requirements.

For more information contact
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Mississippi Department of ENVIRONMENTAL QUALITY

Laboratory Selection:

Eight Questions To Ask

MDEQ strives to preserve and protect Mississippi's air, land, and water through fair and responsible regulation.



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